

IN THE CLAIMS

A 1. (Currently Amended) A pumped fiber laser, comprising:
a multimode doped fiber (1) having a first end and a second end;
a holographic spatial mode conversion device (3) configured to receive light from the
multimode doped fiber; and

a monomode laser oscillator (2) ~~transmitting~~ configured to transmit a monomode laser beam to the first end ~~(1.1) of said multimode doped fiber~~ a doped fiber (1), characterized in ~~that the doped fiber (1) is multimode and in that it also includes a spatial mode conversion device (3) receiving the beam.~~

2. (Currently Amended) The laser as claimed in Claim 1, wherein the multimode doped fiber comprises:

~~characterized in that the~~ core of the multimode fiber (1) has with a diameter ~~very much greater~~ larger than 30 micrometers.

3. (Cancelled)

4. (Currently Amended) The laser as claimed in Claim 3, ~~characterized in that it includes~~ further comprising:

a phase conjugation reflection device (5) coupled to the second end ~~(1.2) of the multimode doped fiber (1) so as~~ and configured to reflect a said monomode laser beam ~~transmitted by this fiber onto this same fiber, said reflected beam taking the place of a pump beam.~~

5. (Currently Amended) The laser as claimed in Claim 3, ~~characterized in that it includes further comprising:~~

at least one or more pumping light sources transmitting configured to transmit a corresponding at least one or more pumped beams to the multimode doped fiber.

A 6. (Currently Amended) The laser as claimed in Claim 5, ~~characterized in that it includes further comprising:~~

an optical splitter (4) placed between the monomode laser oscillator (2) and the first end (1.1) of the multimode doped fiber (1), in order and configured to transmit part of the monomode laser beam, emitted by the laser oscillator, toward the multimode doped fiber and another part of the monomode laser beam toward the holographic mode conversion device (3) and in that the second end (1.2) of the multimode doped fiber is coupled to the mode conversion device so that the beam transmitted by this second end interferes in the mode conversion device with that part of the beam coming from the optical splitter (4) and so that energy is transferred takes place from the reflected monomode laser beam transmitted by the second end of the multimode doped fiber into that part of to the part of the monomode laser beam which is transmitted by coming from the splitter, and such that the mode conversion device transmits a monomode amplified beam.

7. (Currently Amended) The laser as claimed in Claim 5, wherein the holographic mode conversion device (3) comprises:

a prerecorded mode conversion device configured to convert the reflected laser beam ~~characterized in that the second end (1.2) of the multimode doped fiber (1) is coupled to the mode conversion device (3) and in that this mode conversion device is prerecorded so that the~~

~~beam transmitted by the second end (1.2) of the multimode doped fiber is converted into a monomode beam.~~

8. (Currently Amended) The laser as claimed in Claim 1, ~~characterized in that~~wherein said multimode doped fiber comprises:

a plurality of several doped cores.

9. (Currently Amended) A pumped-fiber laser contained in an optical cavity ~~(9, 10), characterized in that it comprises,ing:~~

~~in series with the optical cavity,~~ a holographic spatial mode conversion device arranged in series with the optical cavity.

10. (Currently Amended) The laser as claimed in Claim 9, ~~characterized in that~~wherein the core of the multimode fiber ~~(1) has~~ comprises:

a core with a diameter ~~very much greater~~larger than 30 micrometers.

11. (Cancelled)
